ABSTRACT

A computer-assisted method for localizing a rack, including sensing an image of the rack, detecting line segments in the sensed image, recognizing a candidate arrangement of line segments in the sensed image indicative of a predetermined feature of the rack, generating a

5   matrix of correspondence between the candidate arrangement of line segments and an expected position and orientation of the predetermined feature of the rack, and estimating a position and orientation of the rack based on the matrix of correspondence.